DOCUMENT RESUME

ED 025 334 PS 001 495

By- Bilodeau, Ina McD.

Tangent to Experimental Techniques of Verbal Control.

Michigan Univ., Ann Arbor. Center for Human Growth and Development.
Spons Agency- National Inst. of Child Health and Human Development, Bethesda, Md.
Report No- UM-CHGD-8
Pub Date 30 Nov 65
Note- 7p.
EDRS Price MF- $0.25 HC- $0.45
Descriptors- *Behavioral Science Research, Language Proficiency, *Literature Reviews, *Psycholinguistics, Syntax

This paper is a critical comment and reaction to a 1965 article by G. A. Miller entitled "Some Preliminaries to Psycholinguistics." The subject matter is verbal control of behavior. Seven specific aspects of the Miller address are discussed. (WD)

U. S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

Tangent to Experimental Techniques of Verbal Control

Ina McD. Bilodeau[1]

ED025334

ED025334

This paper began as a methodological presentation, suitable to its title, of external, verbal control of behavior--ways in which one person uses words to control another's actions. The preliminary outline included verbal conditioning, instructions, and feedback as familiar topics and knowledge-giving, motivating, and rewarding as familiar functions historically ascribed to verbal controls; it heartily applauded the current flood of interest (and ingenuity) in reapproaching human behavior as human, and therefore verbal.

But somehow the original, experimentally-oriented paper got lost behind a windy aside against wasting this decade's chance to reanalyze verbal behavior, and more, to enlarge our study, on a 1920-style perception. The tangential thoughts took off from a brief consideration of verbal self-control, but were so like those aroused by G. A. Miller's address on psycholinguistics, printed earlier this year in the American Psychologist, that it seemed better to direct my comments to the specific article than to unspecified "undercurrents in contemporary treatments of verbal behavior."[2] So instead of directly offering my views on current trends and significant techniques, variables, and findings in verbal control, I let you infer them from the following summary of a reaction to "Some preliminaries to psycholinguistics" (G. A. Miller, 1965), hereafter called the preliminaries. In further preamble, I acknowledge that formal criticism of the preliminaries would be inappropriate. The effort was a solicited (not volunteered) response to an award, and was prepared for oral delivery before a heterogeneous audience; if the written version seems casual, its writer should not be held seriously accountable but be given credit for trying to instruct and entertain. The overview and later specific comments below are meant equally casually.

The disappointing, over all impression the preliminaries left with me was of blurred issues and truisms. (The atomistic approach is not inconsistent with there being "non-linear sums," or even with a prevalence of non-linear joint effects of variables. Spatial and temporal relations are physically describable, and a relation between variables does not distinguish the psychological from the physical. Some of the failure of present

PS001495

physical-stimulus description to account for behavior--as "psychological"--is that very psychology that Miller scorns.) The disappointment is there because I agree there will be no important questions about speech if we fool ourselves that, except for a few trivial details, all significant language problems have been solved by rat and eyelid. But with its justified complaint against thoughtless and simplified versions of psycholinguistic problems, variables, and interactions, the preliminaries makes the same errors about the rest of psychology. If there are two sides, each is guilty of unfairly simplifying order and interaction. In short, I read a fairly standard holistic position, though if the preliminaries had been offered in the language (a kind of English) I would have chosen, my apparent agreement would have been greater. At least I fool myself about believing that I am in sympathy with anyone interested in human behavior and that new techniques and methods of analysis can open areas, once hopelessly unanalyzable and unquantifiable, to objective and quantitative treatment. Further, despite a simple-minded bias for reduction, I acknowledge the difference between in-fact and in-principle explanations and know that translating from one area to another may be so distant as to be effectively never, and useless, to boot. (But from my cracker barrel, as opposed to the preliminaries', is added, "So what?" It would be low and sneaking to claim that Miller's opposition asks only wrong questions--S-R psychology has made more in-fact progress than alchemy, and is not all that way off.) Some of the objection below may be evoked by the Gestalty flags the preliminaries unnecessarily waves; clearly many portions are taken approvingly. The preliminaries, however, does not admit so much as an in-principle relation between learning and using language, though Miller repeatedly makes a major implicit concession to his chief antagonists; at least, one can interpret much of the preliminaries to mean that psycholinguists deal with stimuli that have already received a full course of discrimination training. It is not stretching a point very far to describe Miller's paper as largely a complaint about the fact that human beings show transfer of training in using language.

The preliminaries covers each of seven aspects in three sections; the comments below are grouped under the second treatment ("Some Implications for Research") but include statements from the first ("A Point of View") and second ("A Critique") treatments without distinguishing the source. If complaint far outweighs applause, it must be remembered that

my intent is to complain about unfortunate items in a generally laudable revival of interest in human behavior. The preliminaries was selected as containing examples that fit my complaints, not for a comprehensive pro-and-con review of its contents, and even less as an evaluation of its writer's other words.

1. "Not all physical features of speech are significant for vocal communication, and not all significant features of speech have a physical representation."

The title of this aspect is round, ringing, and nonsensical, and more appropriate to parapsychology than to psycholinguistics. The first half, taken as nonexplanatory, is okay; how a feature of speech gets to be significant or not significant, however, is a matter well within the range of inquiry of Miller's archenemies, the students of discrimination learning. The second half is not okay; at best the lack of physical representation means that speech, as one psycholinguist wants to begin with it, includes a great deal of learning, concept formation, etc. (i.e., general psychology)--his unquestioned privilege, though the choice could be stated more accurately and less irritatingly. This is a new context for the standard claim that one must know how the subject perceives a stimulus in order to predict (to me, other) behavior in a given situation. This kind of statement is blind to the fact that the antecedents of this same perception are the object of other people's inquiries.

At least two issues are being made fuzzy under the first aspect. a) As elsewhere in the preliminaries, order, sequence, context, and relation are labeled psychological, although one can specify physical relations between events (where and when they occur, and even where and when, relative to each other) and must specify them for a complete physical description. b) Miller's predictor seems to be other people's dependent measure; the somewhat hypothetical population of discrimination-learning psychologists ought to crow just as loudly that, "...physically identical utterances can be treated differently..." And I understand the preliminaries to offer here as explanation, that speech perception implies grouping and interpretation (something taken for granted as part of the definition of perception).

2. "The meaning of an utterance should not be confused with its reference."

Here the preliminaries pushes two different senses of significance (a "...central and unavoidable concept..."), reference and meaning, partly in order to scrap conditioned

vocalization as having nothing to do with meaning, but at most only with reference. This section is by and large neutral for psychologists who can agree, for example, that "...meaning...depends on intersymbol relations..." Examples of referentless sentences and a rough indication of the limits of what makes a referent, however, are unfortunately not included. (Incidentally this seems to be a confusion crying out for psycholinguists to reconcile psychologists and linguists, with their different vocabularies.)

3. "The meaning of an utterance is not a linear sum of the meanings of the words that comprise it."

Of course not. But what is a linear sum of meanings? Also, "...studying the meanings of isolated words..." may not be so dreadfully limited as here implied. To show how context affects a word's meaning (or, "...how words in a sentence interact...") aspect 3 offers fountain pen and play pen as different pens, though "...phonologically and orthographically identical..." (Is it really necessary to point out that a, b, and c does not mean a + b + c?) The single-word people would have writing, baby, cattle, and jail associations in their collections; the preliminaries' illustration is far better as an example of context eliminating alternative meanings than producing brand new ones--and more to the point is how the two get to be pens and how they get to be different pens. What kind of trouble would a person have if he had just one of the associations? Would the preliminaries advise helping out the unfortunate foreigner by pointing and saying or by having him generate a multitude of sentences about pens? (Could I talk in France of putting the sheep in la plume? And, why don't I generate more French sentences. Surely I am as human as if I were French.)--The "Venetian blind" vs. the "blind Venetian" is fair in neither grammar nor psychology, neither of which ignores order. Even in the low-down lab concerned with (rat) discrimination learning, there is attention to organization and sequence of events, and much fuss, for example, over whether a certain click comes before or after food. (There are other little word games to illustrate all kinds of points--for example, in the lack of meaningful relation between such expressions as "on hand" vs. "on foot", and Tom Sawyer's natural and unnatural sons.)

I hear the assertion that compounds cannot be handled from component meanings, but nothing convincing is offered that it is fruitless to search for elements, wholes, and combining rules.

4. "The syntactic structure of a sentence imposes groupings that govern the interactions between the meanings of the words in that sentence."

This must be granted, as well as that syntax in turn depends upon syntactical environment This aspect and the next might well be accepted as a statement of the preliminaries' central interest in understanding language use. Other investigators with similar central interests (in the transfer of training family) in higher processes, problem solving, concept formation, etc., are able to perform rather similar efforts without kicking psychology on the way.

5. "There is no limit to the number of sentences or the number of meanings that can be expressed."

This is a necessary point (skill vs. rote) and one that the oversimplifying non-linguist may overlook in explaining language behavior.

That we cannot learn an infinite number of sentences also provides a two-pronged attack on S-R learning approaches, or perhaps upon all psychology,that a) learning is a minor matter and b) we must change our hypothetical constructs if we want to handle language. Oddly, some of the reasons the preliminaries offers against are what others would offer for using words before sentences. Otherwise a lengthy comment or nothing seems required for the fifth aspect. It probably never hurts those engrossed in studying learning to be reminded that we want comprehensive behavior theory in which learning plays only a part, and not always the biggest. Various approaches to theory makes sense, and we may end up with a variety of different theories and even, perhaps, different kinds of theories--questions affect answers, and what we set out to explain bears on what we do explain.

6. "A description of a language and a description of a language user must be kept distinct."

Pious assertions aside about the usual custom of keeping clear the distinction between the subject (human or rat) and his lever, what the preliminaries distinguishes is that psycholinguists need to know both rules (or "knowledge"), which they get from linguists, and performance. It seems that psycholgy would expect that preliminaries to take the rules as part of the stimulus, but they are not so handled.

7. "There is a large biological component to the human capacity for articulate speech."

PS001495

This truism does not advance our understanding without some hint of how we are "...tuned by evolution to select just those aspects that are universally significant..." What is the mechanism of this tuning and what are the universally significant aspects of language? A brief explication of these would not be out of line with the level of sophistication of the rest of the preliminaries; otherwise I prefer the plainer "speech is human", accepting aspect 7 as preliminary to the preliminaries.

Summary

Let me repeat that much in the preliminaries is unarguable, and I am pleased to find so human an emphasis upon one of man's two most human and important abilities. I am convinced, for example, that chaining is not all of language--and less than that of language use, and we owe credit to psycholinguists for adding language use to psychology. No preliminary justification is required. We could put in a complaint too, for going beyond the preliminaries' range, as well as short of it. Words do not carry all the meaning, and the aspects omit facial and vocal expression (which can make or reverse meaning, everything else constant). Finally, again, events are always ordered, not just events in language, and any psychologist takes order into account: the staging of stimulus and response events is the first item of a psychologist's business. None of us has more claim to peculiar sequential effects than another, nor any greater reason to expect interaction.

References

Birch, D. Discussion of selective learning. In E. A. Bilodeau (Ed.), Acquisition of skill. New York, Academic Press, 1965.

Miller, G. A. Some preliminaries to psycholinguistics. Amer. Psychol., 1965, 20, 15-20.

Footnotes

1. This paper was prepared while the writer was on research leave at the University of Washington. The support of a grant for leave of absence from the University Council on Research of Tulane University is gratefully acknowledged.

2. Present-decade approaches to perception such as Attneave's, however, are welcomed, and the line between other- and self-controlled behavior is imaginary. As Birch (1965) has said better, explanatory effort may be devoted to laws relating overt initiating stimulus and terminal, overt response, or to such mediating internal events as plans and hypotheses. In problem solving and concept formation (which step on the toes of any area of human behavior), the internal goings-on matter a great deal, and the (within-subject) R-R chain between external, experimenter event and measured, external, subject event may be long and complex. But many people (Bourne, E. A. Bilodeau, C. E. Noble, in my own area of interest, for a few) have for years been having an objective look at just such subjective things as hypotheses. One further admission, or elaboration of Birch's point above, is that either an R-R or S-R approach is reasonable. To measure what the subject is (his perception) and predict from it has all my approval--all that is needed is the measuring. The Language Development Program gives the happy impression of wanting to cover the whole range: general laws of learning, individual-difference laws for known antecedent conditions, and individual differences as controllers of other behavior.